

STATEMENT OF THE HONORABLE J. LYNN HELMS, FEDERAL AVIATION ADMINISTRATOR, BEFORE THE HOUSE COMMITTEE ON SCIENCE AND TECHNOLOGY, SUBCOMMITTEE ON TRANSPORTATION, AVIATION, AND MATERIALS, CONCERNING THE SERVICE DIFFICULTY REPORTING SYSTEM. JUNE 27, 1983.

Mr. Chairman and Members of the Subcommittee:

I welcome the opportunity to appear before the Subcommittee to discuss the FAA's Service Difficulty Reporting system. With me today are Craig Beard, Director of the Office of Airworthiness, and Dr. William Fromme, Director of the Office of Aviation Safety.

I am aware that the Subcommittee is interested in discussing the National Transportation Safety Board's recommendation that the FAA expand its Service Difficulty Reporting system. While we intend to refine and improve upon our reporting system, we have concluded it would be counterproductive to implement significant changes prior to the introduction of our Automated Safety Analysis System (ASAS), which will automate the Service Difficulty Reporting program. More specifically, the changes which would be required to expand/alter our current manual dominated reporting system would divert critical FAA resources from the more important task of automating and improving our whole safety reporting system -- and would likely delay implementation of this advanced system.

Let me put this into better perspective by first explaining how our current reporting system works, including the types and

amounts of safety information already generated within that system, and then by describing our next generation reporting system, ASAS, which will offer substantial improvements over our current system, and is hopefully not far away.

The FAA's Service Difficulty Reporting system is a comprehensive system for collecting, organizing, and disseminating information on specific problems which occur in aircraft systems and components. The purpose is to get the information to persons within FAA and industry who can analyze the data, spot trends, and take appropriate corrective action. It is a system which has been in place for many years, is continually improved, and has worked well, but not without flaws or need for further refinements and improvements.

Under our reporting system, we obtain reports from all segments of the aviation industry on significant kinds of failures, malfunctions and defects in aeronautical products which could adversely affect the safety of flight. The Service Difficulty Reports (SDR's) are coded and filed in a central computer for statistical and analytical purposes. Summary SDR's are published weekly to alert both FAA personnel and industry to potential problem areas. We currently receive about 23,000 SDR's a year from various segments of the industry. This figure includes those required by regulation, and also those submitted voluntarily.

Through the SDR program, we receive Mechanical Reliability Reports from air carriers on problems which might endanger the safe operation of their aircraft; Malfunction or Defect Reports must be filed by certificated air repair stations and Part 125 operators concerning serious failures, malfunctions, defects or other recurring airworthiness problems discovered in aeronautical products; and Special Reports are filed by FAA principal air carrier inspectors on significant failures, malfunctions or defects in the widebody fleet. Every carrier has an assigned FAA Principal Inspector. To supplement the kinds of information received under the SDR program, we also require further reports from manufacturers and air carriers. Air carriers are called upon to file Mechanical Interruption Summary Reports for flight interruptions or an unscheduled change of aircraft en route or an unscheduled stop or diversion from a route that is caused by mechanical difficulties or malfunctions. Manufacturers are required to file reports with the FAA on thirteen identified types of problems such as fires, braking system problems, engine failures, and the like if they have not been reported by another source.

Collection of all these data would be meaningless if they were not put to use. As I have indicated, appropriate FAA offices, often those in which the reports are initially filed, use the information to take corrective action, if needed. In addition, FAA circulates the information throughout the agency and the user community. For example, a weekly summary of Air Carrier

SDR's, containing approximately 8800 reports filed by carriers each year, is circulated to approximately 535 airlines and other interested persons, as well as to all FAA Air Carrier District Offices (ACDO's), Flight Standards District Offices (FSDO's) and General Aviation District Offices (GADO's). The General Aviation weekly summary circulates about 750 selected reports per year to about 4,500 organizations and individuals as well as ACDO's, FSDO's, and GADO's. In addition, FAA sends out a monthly General Aviation Airworthiness alert to repair stations, authorized mechanics, air taxi operators, mechanic schools and requesting mechanics, totaling about 19,000 recipients along with FAA ACDO's, FSDO's and GADO's. Manufacturers also receive a monthly summary of SDR's of interest to them. For those who understand the costs of reproduction and distribution it is immediately recognizable that this is not an insignificant part of our budget. But it also shows that cost-benefit studies are not the only criteria where safety is involved.

Internally, we compile System Analysis Summary Reports containing all SDR's on a specified aircraft system or component, and indicate recognized trends. Approximately 40 of these reports are circulated annually to the specific engineering segment responsible for the product involved, and to other interested segments of FAA.

FAA field office personnel, in the course of their surveillance and investigation procedures, make approximately 200 inquiries of the system per month. Furthermore, FAA and industry elements with computer capability have direct access to 120,000 records on line.

Obviously, with the passage of time and the proliferation of reports, problems have arisen with the Service Difficulty Reporting system. It is a slow, labor intensive system. Different regulations governing different reports make data extraction more difficult and costly than necessary. The system cannot respond readily to ad hoc questions. In an effort to overcome these problems, FAA formed a task force last January to examine the system and determine FAA and user needs, and recommend ways to better meet those needs. To maximize effectiveness, suggestions must dovetail with the field modernization program and the Aviation Safety Analysis System (ASAS). It is the ASAS system which will give us the capability to automate the SDR program.

The ASAS Program will consist of 382 computer/processing units anchored by a central information processing facility in our Aeronautical Center at Oklahoma City. Each District Office will be connected through its Regional Office to the main computer. Headquarters in Washington will have direct access to the computer. Each District Office, the Regional Office and Washington Headquarters will have a level of information

processing to allow it to enter, store, retrieve, and print pertinent data. The Service Difficulty Reporting system will be one important data base of ASAS. The automation capabilities of ASAS will greatly increase the quality, timeliness, accessibility, and distribution of the SDR data. Eventually non-FAA parties will be able to directly enter data, and obtain access to data in aggregate forms.

Additionally, we have under development an improved automatic trend evaluation and alerting system. This will give the aviation community valuable early warning of potential hazards or emerging problems. It will allow FAA to identify unsafe trends more quickly than currently possible, design and evaluate corrective action alternatives, and implement the most appropriate course of action.

We expect to implement a prototype SDR-ASAS by January 1984, with national implementation by the end of 1984. The revised SDR program (based on the work of the special evaluation team I mentioned earlier) will be incorporated into the ASAS by the end of 1985.

Thus, Mr. Chairman, we believe that the ASAS program now underway -- which has been endorsed by the President's Task Force on Aircraft Crew Complement, the Blue Ribbon Committee of the National Research Council, and the GAO -- coupled with our SDR task force work, will result in a vastly improved system

that will best serve the interests of aviation safety. Through this comprehensive approach to upgrading the system, concerns such as those raised by NTSB will be addressed and appropriate changes will be made.

I would like to conclude my remarks with an update on a related issue. In July of 1981, GAO disallowed a vendor protest and implicitly concurred in FAA's selection of new computers to be used as major components of this safety system. Based on that, FAA moved forward to procure them. Recently, GAO reversed its 1981 position and now recommends cancellation of the contract and termination of the procurement. We are now a year downstream, having purchased and leased computers for this program. Over \$13 million has been committed, most of which would be lost. Moreover, we cannot realize the benefits of our ASAS system without the appropriate computers. To the same extent that our total ASAS capability is threatened, so too are the data systems which are planned to reside on that system--this, of course, includes the SDR system. After originally gaining GAO concurrence, if we are now forced to cancel the effort, the safety system will encounter at least a two year delay--and if a total new competition is directed, we are probably facing a four year delay. I genuinely believe this will have a severe adverse effect on aviation safety. I have been so concerned that I have had personal discussions with several GAO offices about the reversed decision, and am hopeful we will get an early acceptance to continue our previously planned and approved program.

I would like to take this opportunity to seek the support of the committee for the full implementation of our ASAS system, including the acquisition of the planned computer hardware facilities.

That concludes my prepared statement, Mr. Chairman. At this time I would like to turn to Craig Beard to give you a more detailed briefing on our current SDR program, and subsequently a detailed review by Dr. Fromme of our new ASAS program, which will go considerably beyond the NTSB recommendations.